

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number
WO 2005/072780 A3

(51) International Patent Classification⁷: **A61K 49/10**,
49/18, 51/04

(21) International Application Number:
PCT/US2005/000800

(22) International Filing Date: 11 January 2005 (11.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/537,303 16 January 2004 (16.01.2004) US
60/621,961 25 October 2004 (25.10.2004) US

(71) Applicant (for all designated States except US):
CARNEGIE MELLON UNIVERSITY [US/US];
4400 Fifth Avenue, Pittsburgh, PA 15213 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **AHRENS, Eric, T.**
[US/US]; 327 Dewey Street, Pittsburgh, PA 15218 (US).

(74) Agents: **VARMA, Anita** et al.; Ropes & Gray LLP, One
International Place, Boston, MA 02110-2624 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
26 January 2006

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: CELLULAR LABELING FOR NUCLEAR MAGNETIC RESONANCE TECHNIQUES

(57) Abstract: The disclosure provides, in part, fluorocarbon imaging reagents and formulations for the *ex vivo* labeling of cells. Labeled cells may be detected in vivo or *ex vivo* by a nuclear magnetic resonance technique, such as magnetic resonance imaging (MRI) or magnetic resonance spectroscopy (MRS). The disclosure additionally provides methods for using the imaging reagents in a variety of clinical procedures.



WO 2005/072780 A3